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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,684	09/19/2001	Clint H. O'Connor	016295.0689 (DC-03044)	1191

7590 12/15/2005

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EXAMINER	
HOSSAIN, TANIM M	

ART UNIT	PAPER NUMBER
2145	

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/955,684	O'CONNOR ET AL	
	Examiner	Art Unit	
	Tanim Hossain	2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 September 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Potter (U.S. 2003/0023885) in view of Butka (U.S. 6,735,704).

As per claim 1, Potter teaches a computer system comprising: a plurality of processing resources operable to process data (paragraph 0047); and a resource management engine associated with the processing resources, the resource management engine operable to scale the number of the plurality of processing resources in relation to a plurality of demand requirements (paragraphs 0047-0049, 0052). Potter does not specifically teach the use of a plurality of power supplies associated with the processing resources, which supply power to the plurality of resources, nor the scaling of power supplies providing power to the processing resources based on power-demand requirements. Butka teaches remotely controlling the allocation of power supplies to computer processing components in relation to demand (column 1, lines 20-29; and column 2, lines 45-59). It would have been obvious to one of ordinary skill in the art to combine the remote power supply management system as taught by Butka into the computer power

allocation system as taught by Potter, to arrive at a system in which remotely scaling power supplies and usage based on demand requirements is performed. The motivation for doing so lies in the fact that having multiple power supplies would allow for a larger-scale system to enjoy the benefits of efficient power consumption, such that there is no system overload due to demand or usage. Both inventions are from the same field of endeavor, namely the efficient allocation of power in a network-enabled computer system.

As per claim 2, Potter-Butka teaches the system of claim 1, wherein the processing resources comprise mobile processors (Potter: 0022).

As per claim 3, Potter-Butka teaches the system of claim 1, wherein the processing resources comprise hard disk drives (Potter: 0022).

As per claim 4, Potter-Butka teaches the system of claim 1, wherein the resource management engine scales the number of processing resources in accordance with an enterprise-wide power strategy (Potter: 0049).

As per claim 5, Potter-Butka teaches the system of claim 1, wherein the resource management engine scales the number of processing resources by powering up additional processing resources (Potter: 0022).

As per claim 6, Potter-Butka teaches the system of claim 1, wherein the resource management engine scales the number of processing resources by powering down the processing resources (Potter: 0022).

As per claim 7, Potter-Butka teaches the system of claim 6, wherein the resource management engine powering down the processing resources comprises powering off the processing resource (Potter: 0022).

As per claim 8, Potter-Butka teaches the system of claim 6, wherein the resource management engine powering down the processing resources comprises reducing the processing resource to a lower power state (Potter: 0022).

As per claim 9, Potter-Butka teaches the system of claim 1, further comprising a plurality of capacity tables associated with the resource management engine, the capacity tables operable to store a plurality of information regarding the processing resources and the power supplies (Potter: 0027).

As per claim 10, Potter-Butka teaches the system of claim 1, further comprising a plurality of dynamic tables associated with the resource management engine, the dynamic tables operable to store a plurality of predictive analysis information (Potter: 0027)

As per claim 11, Potter-Butka teaches the system of claim 1, wherein the processing resources comprise a plurality of servers (Potter: 0024).

As per claim 12, Potter-Butka teaches the system of claim 1, wherein the processing resources comprise a plurality of racks containing a plurality of servers (Potter: 0024, 0055).

As per claim 13, Potter-Butka teaches the system of claim 1, further comprising the resource management engine predicting demand requiremens (Potter: 0027).

As per claim 14, Potter-Butka teaches the system of claim 1, further comprising the resource management engine maintaining a power threshold among the processing resources and power supplies (Potter: 0027).

As per claim 15, Potter-Butka teaches a method for the optimizing of power consumption by a computer system having a plurality of processing resources and a plurality of power supplies associated therewith, the method comprising: receiving a demand requirement (Potter:

0027, Butka: 5; 34-61); determining if the demand requirement requires a processing resource change (Potter: 0027, Butka: 5; 34-61); adjusting the plurality of processing resources to satisfy the demand requirement (Potter: 0027, Butka: 5; 34-61); and adjusting the plurality of power resources to satisfy the demand requirement (Potter: 0027, Butka: 5; 34-61).

As per claim 16, Potter-Butka teaches the method of claim 15, wherein determining if the demand requirement requires a processing resource change comprises consulting a plurality of capacity tables (Potter: 0027).

As per claim 17, Potter-Butka teaches a method of claim 15, wherein determining if the demand requirement requires a processing resource change comprises deciding whether to power up additional processing resources (Potter: 0027, Butka: 5; 34-61).

As per claim 18, Potter-Butka teaches a method of claim 15, wherein determining if the demand requirement requires a processing resource change comprises deciding whether to power down processing resources (column 10, lines 10-34).

As per claim 19, Potter-Butka teaches the method of claim 15, wherein adjusting a plurality of processing resources comprises powering down at least one of the plurality of processing resources when the demand requirement decreases (Potter: 0027, Butka: 5; 34-61).

As per claim 20, Potter-Butka teaches the method of claim 19, wherein powering down processing resources comprises turning off one or more of the plurality of processing resources (Potter: 0027, Butka: 5; 34-61).

As per claim 21, Potter-Butka teaches the method of claim 19, wherein powering down at least one of the plurality of processing resources comprises powering at least one processing resource to a lower power state (Potter: 0027, Butka: 5; 34-61).

As per claim 22, Potter-Butka teaches the method of claim 15, wherein adjusting the plurality of processing resources comprises powering up additional processing resources when the demand requirement increases (Potter: 0027, Butka: 5; 34-61).

As per claim 23, Potter-Butka teaches the method of claim 22, wherein powering up additional processing resources comprises integrating the additional processing resource with the already operating resources (Potter: 0027, Butka: 5; 34-61).

As per claim 24, Potter-Butka teaches the method of claim 15, further comprising: predicting future demand requirements (Potter: 0049); and adjusting the plurality of processing resources to meet the future demand requirements (Potter: 0027, Butka: 5; 34-61).

As per claim 25, Potter-Butka teaches the method of claim 24, wherein predicting demand requirements comprise consulting a plurality of dynamic tables (Potter: 0027).

As per claim 26, Potter-Butka teaches the method of claim 15, further comprising maintaining a power threshold in the plurality of processing resources (Potter: 0027, Butka: 5; 34-61).

Claims 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reneris (U.S. 5,784,628) in view of Lagod et al. (U.S. 6,583,521).

As per claim 27, Reneris teaches a method for managing power consumption in a computer system, but does not specifically teach the storing of historical data in a plurality of dynamic tables (Lagod: column 6, lines 22-29); predicting future demand requirements using the historical data in the dynamic tables (Lagod: column 7, lines 23-30); determining if a processing resource change is needed to efficiently meet the future demand requirements (Lagod: column 7,

lines 23-30); and adjusting a plurality of processing resources in advance to meet the future demand requirements (Lagod: column 7, lines 23-30). As indicated above, Lagod teaches these limitations. It would have been obvious to one of ordinary skill at the time of the invention to include the storage of historical data and adjusting system power in relation to demand as taught by Lagod in the system of Reneris. The motivation for doing so lies in the fact that Lagod teaches power generation in any type of customer system, which does not preclude a computer system (column 4, lines 1-15). Additionally, the keeping of dynamic historical data in a table would allow for easy access of power information, and the adjustment of processing resources in relation to predicted user demand would allow for the efficient deployment of power. Because Reneris' field of endeavor is drawn to the efficient use of power in a system, and Lagod's field of endeavor is also drawn to the efficient use of power in a system, it would have been obvious to one of ordinary skill in the art to combine these teachings of the two inventions.

As per claim 28, Reneris-Lagod teaches the method of claim 27, wherein predicting future demand requirements comprises dynamically adjusting for global occurrences that affect demand requirements (Lagod: column 7, lines 23-30; column 8, line 66 – column 9, line 10).

As per claim 29, Reneris-Lagod teaches the method of claim 27, wherein the historical data comprises load data from a plurality of demand requirements from previous time periods (Lagod: column 7, lines 31-42).

As per claim 30, Reneris-Lagod teaches the method of claim 27, wherein adjusting the processing resources in advance comprises powering up additional processing resources to address the future demand requirements (Lagod: column 7, lines 23-42).

Response to Arguments

Applicant's arguments filed on September 16, 2005 have fully been considered and are respectfully traversed by the new grounds of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanim Hossain whose telephone number is 571/272-3881. The examiner can normally be reached on 8:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on 571/272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tanim Hossain
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Art Unit 2145

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